

CLAIMS

1. A motor cover having a resin-made cover main body to be fixed by insert molding in a state where first and second metal parts are spaced from each other, the motor cover covering a case body to be provided to an electric motor, the motor cover comprising:

a flow-in portion in which a resin material is cast when the cover main body is insert-molded; and a branch portion which is formed so as to be branched to the flow-in portion and in which the resin material is cast via the flow-in portion, the flow-in portion and the branch portion being provided in the first metal part,

wherein a portion of the second metal part is disposed in the branch portion.

2. The motor cover according to claim 1, wherein a cross-sectional area perpendicular to a longitudinal-directional axis line of the branch portion is formed smaller than a cross-sectional area perpendicular to a longitudinal-directional axis line of the flow-in portion.

3. The motor cover according to claim 1, wherein the first metal part is a heat sink, which is arranged so as to oppose a control circuit for controlling the electric motor and emits heat inside the case body to outside, and the second metal part is a power-feeding terminal electrically connecting the control circuit and the electric motor.

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4. The motor cover according to claim 3, wherein the flow-in portion and the branch portion are formed into a groove shape in the heat sink.
5. The motor cover according to claim 1, wherein the first metal part is exposed from only one surface of a front surface and a rear surface of the cover main body.
6. The motor cover according to claim 5, wherein a heat radiating resin portion contacting with the first metal part and a base portion supporting the heat radiating resin portion are provided in the cover main body, the heat radiating resin portion is formed of a thermal conductive resin material, and the base portion is formed of a resin material different from the thermal conductive resin material.
7. The motor cover according to claim 1, wherein the first metal part is formed of an aluminum material.
8. The motor cover according to claim 1, wherein the case body is formed of a conductor; a power-feeding unit controlling power feeding to the electric motor and electrically connected to the first metal part is contained in the case body; and, by a fixing member formed of a conductor, the cover main body is fixed to the case body and the first metal part is electrically connected to the case body.

9. The motor cover according to claim 8, wherein the power-feeding unit comprises a brush apparatus performing the power feeding to the electric motor.

10. The motor cover according to claim 8, wherein the power-feeding unit comprises a control circuit controlling the electric motor.

11. The motor cover according to claim 8, wherein the fixing member includes: a clip portion engaged with the case body and the cover main body and fixing the cover main body to the case body; and a contact portion formed so as to protrude from the clip portion and contacting with the first metal part.

12. The motor cover according to claim 8, wherein the contact portion is fixed by being press-fitted to a press-fitting portion provided in the first metal part.

13. An electric motor equipped with a case body and a motor cover covering the case body, the electric motor comprising:

a resin-made cover main body to be fixed by insert molding in a state where first and second metal parts are spaced from each other, the cover main body being provided in the motor cover; and

a flow-in portion in which a resin material is cast when the cover main body is insert-molded, and a branch portion, which is formed to be branched to the flow-in portion and in which the resin material is cast via the flow-in portion, the flow-in portion and the branch portion being provided in the first metal part,

wherein a portion of the second metal part is disposed in the branch portion.

14. The electric motor according to claim 13, wherein a cross-sectional area perpendicular to a longitudinal-directional axis line of the branch portion is formed smaller than a cross-sectional area perpendicular to a longitudinal-directional axis line of the flow-in portion.

15. The electric motor according to claim 13, wherein the first metal part is a heat sink, which is arranged so as to oppose a control circuit controlling the motor main body and emits heat inside the case body to outside, and the second metal part is a power-feeding terminal electrically connecting the control circuit and the motor main body.

16. The electric motor according to claim 15, wherein the flow-in portion and the branch portion are formed in a groove shape in the heat sink.

17. The electric motor according to claim 13, wherein the first metal part is exposed from only one surface of a front surface and a rear surface of the cover main body.

18. The electric motor according to claim 17, wherein a heat radiating resin portion contacting with the first metal part and a base portion supporting the heat radiating resin portion are provided in the cover main body; the heat radiating resin portion is formed of a thermal conductive resin material; and the base portion is formed of a resin material different from the thermal conductive resin material.

19. The electric motor according to claim 13, wherein the first metal part is formed of an aluminum material.

20. The electric motor according to claim 13, wherein the case body is formed of a conductor; and a power-feeding unit that controls power feeding to the electric motor and is electrically connected to the first metal part is contained in the case body; and body by a fixing member formed of a conductor, the cover main body is fixed to the case body and the first metal part is electrically connected to the case body.

21. The electric motor according to claim 20, wherein the power-feeding unit comprises a brush apparatus performing the power feeding to the electric motor.

22. The electric motor according to claim 20, wherein the power-feeding unit comprises a control circuit controlling the electric motor.

23. The electric motor according to claim 20, wherein the fixing member includes: a clip portion engaged with the case body and the cover main body and fixing the cover main body to the case body; and a contact portion formed so as to protrude from the clip portion and contacting with the first metal part.

24. The electric motor according to claim 20, wherein the contact portion is fixed by being press-fitted to a press-fitting portion provided in the first metal part.